casing wall varies in the respective portions, a large thermal stress is generated by the difference in the amount of the thermal expansion of the respective portions of the casing. When a large thermal stress is generated, the casing tends to deform and concentricity of the cross section of the casing cannot be maintained. Further, in the turbines and compressors, the temperature of the fluid passing through the machines changes considerably due to a change in the operating load. In this case, if the casing is provided with flanges having a thickness larger than other portions of the casing, the change in the temperature of the flanges is late compared with the other portions. This causes a large temperature difference between the flanges and other casing portions when the rate of the change in the temperature of the fluid in the casing is high. Therefore, if the casing is provided with flanges having a large thickness, distortion of the casing may occur when the temperature of the fluid changes.

a1

Page 3, beginning at line 12, please amend the paragraph to read as follows:

In turbines and compressors, rotors rotating at high speed are accommodated in the casings. Therefore, if distortion of the casing occurs, the outer periphery of the rotor (such as the tips of the turbine blades) contacts with the inner periphery of the casing. This may cause damage to the machine. It is true that the contact between the rotor and the casing can be avoided even in this case if the clearance between the tips of the turbine blades and the inner periphery of the casing is set at a relatively large value. However, in the hydraulic machines such as turbines and compressors, since the efficiency of the machine decreases as the tip clearance becomes larger, it is not practical to set the tip clearance to a large value.

a2

Page 4, beginning at line 29, please amend the paragraph to read as follows:

Fig. 9 schematically shows a section of the wall of the casing half 210a around the spot facings 210d taken along the line A-A in Fig. 8. As can be seen from Fig. 9, the wall is cut off in a cylindrical shape around the spot facings 210d and only a solid metal in the shape

a3

of the hatched area remains. The average wall thickness of the portions shown by the hatched area is represented by T_2 in Fig. 9. In other words, the effective wall thickness of the casing around the spot facings is reduced to a substantially small value T_2 when the spot facings are formed. Therefore, in the flangeless casing in Fig. 8, reduced wall thickness portions are formed in the casing 210a by the spot facings 210d. Since the distortion of the casing occurs at these reduced wall thickness portions when the internal pressure or temperature of the casing is high, problems similar to those of the flanged casing of Fig. 7 occur.

a3

Page 9, beginning at line 24, please amend the paragraph to read as follows:

Figs. 3A schematically illustrates the thickness of the casing at spot facings according to the prior art in Fig. 8;

a4

Page 11, beginning at line 9, please amend the paragraph to read as follows:

Fig. 2 is an enlarged view of the portion indicated by II in Fig. 1. As can be seen from Fig. 2, an internal screw thread 9a is formed on the inner surface of the bolt hole 7 near the joint face 3. A cylindrical sleeve 11 having external thread 9b which engages the internal thread 9a is fitted in the bolt hole 7 by screwing the sleeve 11 into the bolt hole 7. When the sleeve 11 is fitted into the bolt hole 7, a clearance is formed between the lower end 11b of the sleeve 11 and the joint face 3 in order to avoid the contact between the lower end 11b of the sleeve 11 and the joint face 3 of the lower casing 2 when the fastening bolt 5 is fully tightened.

a5

Page 11, beginning at line 22, please amend the paragraph to read as follows:

An enlarged diameter portion 5c is formed on the shaft portion of the fastening bolt 5 at the portion located inside of the bolt hole 7 when the bolt 5 is tightened. An external screw thread 5e may be formed on the shaft of the bolt. The diameter of the enlarged

a6

diameter portion 5c is slightly smaller than the diameter of the bolt hole 7. When the fastening bolt 5 is screwed into the threaded hole 5b of the lower casing 2, the lower face of the enlarged diameter portion 5c is pressed against the upper end face 11a of the sleeve 11. Therefore, when the fastening bolt 5 is further tightened, a tensile force is generated in the shaft portion of the fastening bolt 5. The reaction force of this shaft tensile force is transferred from the enlarged diameter portion 5c to the upper end face 11a of the sleeve 11 and a downward force is exerted on the sleeve 11. Since the external thread 9b of the sleeve 11 engages the internal thread 9a of the bolt hole 7, the downward force exerted on the sleeve 11 is received by the upper casing 1. Thus, the shaft tensile force of the fastening bolt 5 is converted to a tightening force which presses ~~the~~ upper casing 1 against the lower casing 2.

a6

Page 12, beginning at line 13, please amend the paragraph to read as follows:

In this embodiment, materials having a relatively low strength such as a carbon steel for boilers and pressure vessels (for example, Japanese industrial standard (JIS) SB410) or a cast steel for high temperature and high pressure (for example, JIS SCPH32) are used for the upper casing 1 and lower casing 2 to facilitate machining of the upper and lower casings. On the other hand, a material having a high strength, such as alloy steel bolting material (JIS SNB7) or heat resisting steel (JIS SUH616) is used for the fastening bolts 5 in order to obtain a large tightening force of the casing 10. Therefore, if the conventional fastening arrangement in which the bolt heads of the fastening bolts directly contact the upper casing is used, the maximum allowable contact pressure between the bolt heads and the casing is limited by the strength of the material used for casing. Thus, as explained before, spot facings having large diameters are required for the casing in order to lower the contact pressure between the bolt heads and the casing. This causes the problems explained before,

a7